

Notice of Allowability	Application No.	Applicant(s)	
	10/731,885	MALLINSON, ANDREW MARTIN	
	Examiner	Art Unit	
	Peguy JeanPierre	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 8/1/2004.
2. ☒ The allowed claim(s) is/are 2,3 and 5.
3. ☒ The drawings filed on 08 December 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
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DETAILED ACTION

1. Amendment filed on 8/11/2004 is non-compliant because the claims were not listed in numerical order. An examiner's amendment listing the claim in numerical order appears below.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In the claims:

1. Cancel
2. (Once amended) [A sigma delta quantizer circuit according to claim 1,]

A sigma delta circuit comprising:

a sigma delta modulator configured to operate according to a first clock signal; and

a quantizer connected to the sigma delta modulator and configured to operate according to a second clock signal, wherein the sigma delta modulator is further configured to operate at a fixed output frequency of transitions under one set of circumstances, and to operate at a variable frequency under another set of circumstances.

- 3.[4]. (Once amended) [A sigma delta circuit according to claim 1]

A sigma delta circuit comprising:

a sigma delta modulator configured to operate according to a first clock signal; and

a quantizer connected to the sigma delta modulator and configured to operate according to a second clock signal, wherein the sigma delta quantizer element is configured to operate at a variable clock frequency such that for small input signals a fixed frequency of output transitions is produced and for large input signals a possibly variable output frequency of edges is produced.

4. Cancel

5. A sigma delta circuit according to claim 1, wherein the second clock signal that determines the output frequency of transitions is a variable clock signal.

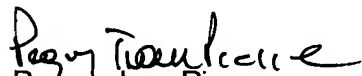
Allowable Subject Matter

3. The following is an examiner's statement of reasons for allowance: The prior art of record does not teach a sigma delta modulator that operates according to a first clock signal and also a fixed output frequency of transitions and a variable output frequency of transitions based on a set of circumstances or the size (large or small) of the input signal; a quantizer coupled to the modulator is configured to operate according to a second clock signal.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 2819

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peguy JeanPierre whose telephone number is (571) 272-1803. The examiner fax phone number is (571) 273-1803.


Peguy JeanPierre
Primary Examiner